Effective Oral and Poster Scientific Presentations

Edward C. Weiss, MD, MPH, CMQ
Epidemiology Workforce Branch
Learning Objectives

1. Apply principles of effective oral and poster presentations when presenting original research to scientific audiences

2. Identify and avoid common errors in presentations that detract from effective communication of scientific findings
Key Messages

Simplicity is good

Preparation is essential

Design should be purposeful

Delivery needs to be engaging
Oral Presentations Tell a Story

- Setting the stage
- Preserving the element of mystery
- Presenting the questions you wanted to answer
- Showing how epidemiologic judgment and decision making influenced the investigation
- Presenting good science
4 Steps to an Effective Presentation

1. Plan your talk
2. Design your visuals
3. Practice your talk
4. Deliver your talk
4 Steps to an Effective Presentation

1. Plan your talk
2. Design your visuals
3. Practice your talk
4. Deliver your talk
Structure of a Scientific Presentation

- Title
- Background
- Methods
- Results
- Discussion
- Acknowledgments
- Q and A
Title

- Concise
- Grab your attention
- Summarize the content of the presentation
- Convey context and aims of study
- Most effective when refers to SOCO
- Scope, study design, and goal
- Usually capitalize first letter of each word
Common Mistakes — Title

- States results or conclusions
- Difficult to understand
- Contains jargon or unfamiliar acronyms
- Contains nonspecific phrases “a study of…” “an investigation into”
- Contains plays on words or deliberately provocative expressions
  - Might catch readers attention
  - Might appear to trivialize the work being reported
Title Slide

- Title should include
  - Subject
  - Location
  - Time period
- Your name
- Your affiliation
- Say “Good morning / afternoon / evening”
Content Areas

- Background/ Introduction
- Methods
- Results
- Discussion/ Conclusion
Content Areas

- Why did you do it? Why did you start?
- What did you do? How did you do it?
- What did you find?
- What does it mean? Why is it important?
Background

- Why did you do it? Why did you start?
- Background or motivation
- Significance to public health
- Objectives
  - Simple, clear, direct statements
- Scope
  - If complex or complicated
  - Let reader know you are limiting your scope
Background

- Engage audience

- If a planned study, what prompted it?

- If outbreak investigation, how did you hear about it?
  - Can start with “the call”

- Essential information (only) about disease
  - If etiology unknown at start of investigation, don’t ruin a good story by giving away culprit here in Background
Common Mistakes — Background

- No clear objectives
- Unclear why you did the study
- Unclear why the study is important
- Contains methods, results, or conclusions
Methods

- What did you do? How did you do it?
- Describe study design(s)
- Define a case and describe case finding
- Tell how controls were selected if CC study
- Define cohort if cohort study
Methods

- Describe how and what data were collected
- Define exposures, outcomes, and other unfamiliar terms
- Describe any laboratory and environmental investigation methods
- Describe analysis methods
Common Mistakes — Methods

- Unclear what you did
- Unclear how you did it
- Methods are non-specific
  - “We collected data”
  - “We sampled the population”
  - “We performed statistical analyses”
  - “Cases were identified”
- No statistical methods provided
- Methods missing for results presented
Results

- What did you find?
- Logical flow from descriptive to analytic
- Numbers
- Observations
- Accomplishments
- Measures of association
- P-values or confidence intervals
- Results that pertain to objectives
- Data to support your conclusions
Results

- Emphasize most important findings
- Describe characteristics of study participants
- Include descriptive epidemiologic results and analytic results
- Use tables, figures, photos, (text slides) as appropriate to your data
Common Mistakes — Results

- Results lack numbers
  - “The findings will be presented”
  - “We found treatment A to be superior to B”
- Results do not pertain to objectives
- Results presented as almost significant
- Statistical analysis inadequate or missing
- Results missing for methods
- Not enough results provided
- No results to support conclusions
- Results contain conclusions or interpretation
Variation

- For a complex or multi-part study, you can present methods and results for each part before moving to the next

- **Example:**
  - Clinical / epidemiology
  - Laboratory
  - Environmental investigation
Discussion

- Interpretation of your findings
  - Don’t repeat results
  - Prioritize findings from most to least important
  - Link findings to study objectives
  - Put findings into context with data from other studies

- Limitations (only the important ones)

- Conclusions based on your findings

- Recommendations based on your conclusions
Discussion

- So what?
- Why are the results important?
- What do you think they mean?
- Did you accomplish your objectives?
- Are the results consistent with expectations?
- Why should anyone be excited or interested?
- Should be supported by your results
Common Mistakes — Conclusion

- Unclear why it’s important
- No interpretation of findings
- Relate to method used rather than results
- Based upon literature rather than results
- “More research is needed”
- Conclusions generalized beyond study restrictions
- Not supported by the findings of your study
Acknowledgments

- Recognize coauthors and contributors
- More screen time at end of presentation
- Organize by agency
- Your last words = “Thank You”
Telling the Story: Examples of Good Openings
Dengue Infections Among Travelers Returning from Haiti — Nebraska and Georgia, 2010

Parvathy Pillai, MD, MPH
Nebraska Department of Health and Human Services
EIS Field Assignments Branch, Division of Applied Sciences
October 18, 2010

- State health department alerted by district health department
- 6 persons with dengue-like illness reported
- Recently returned from missionary trip to Haiti
- 22 travelers from Nebraska, 6 from Georgia
- Additional members of group reportedly ill
Dengue

- Caused by mosquito-borne flaviviruses DENV 1–4
- Endemic in many subtropical, most tropical countries
- ~50 million infections, 22,000 deaths annually
- No treatment or vaccine
- Leading cause of febrile illness among travelers returning from Caribbean
- Little known about epidemiology of dengue in Haiti
Prevention Strategies for the Perinatal Period Among Nebraska Birthing Facilities, 2010

Parvathy Pillai, MD, MPH
EIS Field Assignments Branch
Nebraska Department of Health and Human Services

60th Annual EIS Conference
April 14, 2011
Recent Headlines — Nebraska, 2010

Whooping Cough Cases Increasing in Lancaster County
Lancaster County
The Lincoln-Lancaster County Health Department has investigated 18 cases of pertussis ("Whooping Cough") in the past two months. A total of 24 lab confirmed cases have been reported so far in 2010.
Reporter: Courtesy: Lincoln-Lancaster County Health Department
Email Address: desk@1011now.com

"Four of the cases in the past 2 months were in infants under one year of age..."
Background

- Perinatal period key time to deliver interventions
  - Maternal intrapartum prophylaxis
  - Neonatal prophylaxis
  - Postpartum vaccination of mother or infant

- Prevent disease transmission during:
  - Delivery
  - Infancy
  - Subsequent pregnancies
Written Policies (WPs) or Standing Orders (SOs)

- Disease-specific WPs or SOs shown to improve delivery of interventions

- Comprehensive disease-specific strategies address multiple interventions
  - Determine risk of transmission
  - Deliver appropriate intervention(s)
Questions

- What proportion of Nebraska birthing facilities have comprehensive disease-specific strategies?

- What proportion of Nebraska births occur at facilities with comprehensive disease-specific strategies?

- Is the presence of comprehensive disease-specific strategies related to each facility’s volume of births?
4 Steps to an Effective Presentation

1. Plan your talk
2. Design your visuals
3. Practice your talk
4. Deliver your talk
Effective Slides: Principles and Pitfalls
Effective Slides

- Are uncluttered, clear, visible
- Don’t distract the audience
- Use informative titles
  - “Characteristics of Study Participants”
  - “Risk Factors for Illness”
  - Not “Results”, “Results cont’d”
- Have simple, high-contrast, consistent color scheme
  - Avoid busy backgrounds
Start with a Slide Master

- Set font, size, boldness, color scheme, capitalization, bullet size/shape/hierarchy
- Slides created from the Master will automatically be formatted correctly
- Make the Master **before** creating your slides
- Applying the Master retroactively to existing slides doesn’t work well
- PowerPoint 2010: “View” tab then “Slide Master” in “Master Views”
Recommended Fonts and Sizes

- Sans serif font (Arial, Calibri, Tahoma) bolded

- Arial (bolded):
  - Titles 28 pt
  - Main bullets 24 pt
  - 2nd-level bullets 24 or 20 pt

- Avoid 3rd- and 4th-level bullets (re-format)

- Keep text / title size consistent across slides
  - Stop PowerPoint from changing text size as you type
  - PowerPoint 2010: Go to File, Options, Proofing, AutoCorrect
  - Uncheck “Autofit body/title text to placeholder”
Use a Plain Background for Your Slides

SPRINGDALE PARK ELEMENTARY SCHOOL
Case Finding Methods

- Matched DHS list of residents since 2001 to statewide TB registry from 2000-2003
- Genotyped *M. tuberculosis* isolates
- Searched genotype databases
- Provided onsite TB screening to shelter residents
Epidemiology of *B. cepacia*

- Low virulence
- Low morbidity and mortality rates
- Investigate when multiple patients test positive for *B. cepacia* over short time
Epidemiology of *B. cepacia*

- Low virulence, morbidity and mortality rates are generally associated with *B. cepacia* in most patient populations.

- Research suggests that investigations are necessary when multiple patients test positive for *B. cepacia* over a short time period.
Epidemiology of *B. cepacia*

- Low virulence
- Low morbidity and mortality rates
- Investigation when multiple patients test positive for *B. cepacia* over short time
Epidemiology of B. cepacia

- Low virulence
- Low morbidity and mortality rates
- Investigation when multiple patients test positive for B. cepacia over short time
Should I Put References and Footnotes On My Slides?

- PowerPoint is not a document
- Slides are visual aids, not complete record of talk
- Other ways to cite your sources during your talk
  - Verbally
  - Abbreviated citation in line with your slide text
  - Subtitle if source applies to entire slide
Obesity Prevalence

- In 2010, 18% of children aged 6–11 in U.S. were obese
- No significant changes in obesity prevalence among children and adolescents during 1999–2008 (Ogden, JAMA 2012)
- Little data available about obesity among children living in Maine
More Deaths From Heart Disease Than Expected

Heart disease death rates are typically lower in areas with the advantages of wealth and education. But the New York region has both high income and high death rates.
Color

- Use light color background and dark color letters for contrast
- Stick to 2-3 colors
- Use colors with a consistent pattern
- Avoid overly bright colors
- Choose colors with high contrast
- Use colors to emphasize, differentiate, and add interest
Epidemiology of *B. cepacia*

- **Low virulence**
- **Low morbidity and mortality rates**
- Investigate when multiple patients test positive for *B. cepacia* over short time
Flow of Information

Neurologists

Other MDs

IVIG Orders

ICD9 Codes

HASS

VAERS

Possible Cases: Medical Chart Review

CT DPH

Yale EIP

Confirmed Case

Probable Case

Non-Case

Indeterminant Case

Patient Interview

Avoid distracting audience with too many colors
Flow of Information

Neurologists
Other MDs
IVIG Orders
ICD9 Codes
HAAS
VAERS

Possible Cases: Medical Chart Review

Yale EIP

CT DPH

Confirmed Case
Probable Case
Non-Case
Indeterminant Case

Patient Interview
Percentage of Tuberculosis Cases Among Foreign-Born Persons—United States, 2002

From MMWR (Weekly) March 21, 2003
Percentage of Tuberculosis Cases Among Foreign-Born Persons—United States, 2002

From MMWR (Weekly) March 21, 2003

Area Map…But choose colors carefully

- > 50%
- 25–49%
- < 25%
Annual Rate of Motor-Vehicle Collisions with Moose by County

Rate per 100,000 persons

- **Yellow**: 0–79
- **Blue**: 80–159
- **White**: 160–239
- **Red**: 240–310

Colors obscure the hierarchy of ordinal data.
Annual Rate of Motor-Vehicle Collisions with Moose by County

Rate per 100,000 persons

- **Red**: 240–310
- **Orange**: 160–239
- **Yellow**: 80–159
- **Light Yellow**: 0–79
Don’t use hierarchical colors for nominal variables

Overweight Prevalence by Sex and Race/Ethnicity

Prevalence (%) by Race/Ethnicity and Sex

- White
- Latino
- Black
- Asian
- Pacific Islander
- American Indian

Race/Ethnicity

Prevalence (%)
Overweight Prevalence by Sex and Race/Ethnicity

Use equally strong colors instead
Color-Blind “Friendly” Presentations

- Avoid pure red/pure green color combinations
- Use yellowish red instead (R=255 / G=82 / B=0)
- Avoid red characters or lines on dark background
- Distinguish data lines by shape, thickness, and color
  
  This: ──
  Not This: ──

- Label lines directly instead of legend if possible
- Make text and lines as big or thick as practical
- Check how your slide looks to color-blind people: [http://www.vischeck.com/vischeck](http://www.vischeck.com/vischeck)
Try Vischeck on Your Image Files

Your Results:

Original Image

Deuteranope Simulation

Measles Cases by Week of Onset
Texas and Arkansas, 1970 - 1971

- School
- Preschool
- Unknown

Opening of schools
Vaccination Campaigns

Week of Onset

Number of Cases

http://www.vischeck.com/vischeck
Photos and Clip Art — Tips

- Should serve a purpose
- Must be good quality
- No copyrighted materials without permission
- No photos of identifiable people unless release
- No photos of your kids or your pets
- Clip art cautions
- Simplest is most effective
Stakeholder Input

- Focus groups
- Open-ended interviews
- Brief written survey
- Stakeholders’ needs incorporated into evaluation design
Individual-Level Case-Control Study

Asked about foods consumed during week before patient’s illness began

Picture book for recall
Laboratory Results of Second Food Sampling

PFGE variations matched outbreak strain = MLVA patterns indistinguishable
Petting Zoo B site

- Camel, llamas, alpacas, cattle
- Sheep, goats
Clip art is good if it serves a purpose…

Traceback Investigation

Product ➔ Distributor ➔ Slaughterhouse ➔ Farm
Data Methods

- **Management**
  - Double entered
  - Missing data: completed using other sources

- **Analysis**
  - Excluded if: contraindications, unknown vaccination history, reported “no take”
  - Kaplan-Meier survival curves
  - Multivariate logistic regression: Odds Ratios (OR), 95% Confidence intervals (95%CI)

…but don’t use gratuitous clip art
Tables, Graphs, and Charts for Oral Presentations
Example of a table that’s too complicated for a slide presentation.
Demographic Data

• Age
  – Mean age of decedents 66 years (range 29–90 years)
  – Mean age of survivors 41 years (range <1–92 years)
  – \( P < 0.0001 \)
**Decedents Were Significantly Older**

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>Decedents</th>
<th>Survivors</th>
<th>( P &lt; 0.0001 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>66</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>29–90</td>
<td>&lt;1–92</td>
<td></td>
</tr>
</tbody>
</table>
## Case-Control Study Results

<table>
<thead>
<tr>
<th>Food</th>
<th>Cases (n=15)</th>
<th>Controls (n=30)</th>
<th>Odds Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potatoes</td>
<td>15 (100)</td>
<td>19 (63)</td>
<td>undef (1.9 – undef)</td>
</tr>
<tr>
<td>Pudding</td>
<td>12 (80)</td>
<td>14 (47)</td>
<td>4.0 (0.8 – 22.5)</td>
</tr>
<tr>
<td>Beef</td>
<td>13 (87)</td>
<td>19 (63)</td>
<td>3.8 (0.6 – 29.4)</td>
</tr>
<tr>
<td>Coleslaw</td>
<td>12 (80)</td>
<td>16 (53)</td>
<td>3.5 (0.7 – 19.7)</td>
</tr>
<tr>
<td>Chicken</td>
<td>11 (73)</td>
<td>19 (63)</td>
<td>1.6 (0.3 – 7.8)</td>
</tr>
</tbody>
</table>
## Case-Control Study Results

<p>| | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Case-Control Study Results

<table>
<thead>
<tr>
<th>Food</th>
<th>Cases (n=15)</th>
<th>Controls (n=30)</th>
<th>Odds Ratio</th>
<th>(95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potatoes</td>
<td>15 (100)</td>
<td>19 (63)</td>
<td>undef</td>
<td>(1.9 – undef)</td>
</tr>
<tr>
<td>Pudding</td>
<td>12 (80)</td>
<td>14 (47)</td>
<td>4.0</td>
<td>(0.8 – 22.5)</td>
</tr>
<tr>
<td>Beef</td>
<td>13 (87)</td>
<td>19 (63)</td>
<td>3.8</td>
<td>(0.6 – 29.4)</td>
</tr>
<tr>
<td>Coleslaw</td>
<td>12 (80)</td>
<td>16 (53)</td>
<td>3.5</td>
<td>(0.7 – 19.7)</td>
</tr>
<tr>
<td>Chicken</td>
<td>11 (73)</td>
<td>19 (63)</td>
<td>1.6</td>
<td>(0.3 – 7.8)</td>
</tr>
</tbody>
</table>
Newly Diagnosed HIV Cases by Race — Mississippi, 2005–2007

Number of cases

- African American
- All other races
- Total

2005 2006 2007
Newly Diagnosed HIV Cases by Race — Mississippi, 2005–2007

- African American: +30%
- All other races: −34%
- Total: +6%
Overweight Prevalence by Sex and Race/Ethnicity
Overweight Prevalence by Sex and Race/Ethnicity

Race/Ethnicity

- White
- Latino
- Black
- Asian
- Pacific Islander
- American Indian

Prevalence (%)

- Male
- Female
Students’ Weight Status
Los Angeles County, 2001
N = 281,630

- Normal: 57.8%
- Overweight: 20.6%
- At Risk for Overweight: 18.7%
- Underweight: 2.8%
Students’ Weight Status
Los Angeles County, 2001
N = 281,630

- Normal: 57.8%
- Overweight: 20.6%
- At Risk for Overweight: 18.7%
- Underweight: 2.8%
Students’ Weight Status
Los Angeles County, 2001
N = 281,630

- Underweight: 3%
- Overweight: 19%
- At Risk for Overweight: 21%
- Normal: 58%
4 Steps to an Effective Presentation

1. Plan your talk
2. Design your visuals
3. Practice your talk
4. Deliver your talk
Epidemiology of *B. cepacia*

- Low virulence
- Low morbidity and mortality rates
- Investigate when multiple patients test positive for *B. cepacia* over short time

Low Virulence and low morbidity and mortality rates are generally associated with *B. cepacia* infection in most patient populations.

However, research suggests that investigations are necessary when multiple patients test positive for *B. cepacia* over a short time period.
## To Use a Script or Not?

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Know how long talk will be</td>
<td>• Can sound like reading</td>
</tr>
<tr>
<td>• Clear wording</td>
<td>• Can sound like reciting</td>
</tr>
<tr>
<td>• Combat nerves</td>
<td>• Can interfere w/eye contact (speaker looking at script)</td>
</tr>
<tr>
<td>• Good for tightly timed talks</td>
<td></td>
</tr>
<tr>
<td>• Supervisor can review</td>
<td></td>
</tr>
<tr>
<td><strong>Fully Scripted</strong></td>
<td></td>
</tr>
<tr>
<td>• Conversational</td>
<td>• Usually runs long</td>
</tr>
<tr>
<td>• Not stuck at podium</td>
<td>• Text-heavy slides because they serve in lieu of notes</td>
</tr>
<tr>
<td>• Nothing to hold in your hand</td>
<td>• Can interfere w/eye contact (speaker looking at screen)</td>
</tr>
<tr>
<td><strong>No Notes</strong></td>
<td></td>
</tr>
<tr>
<td>• Can be best of both worlds</td>
<td>• Requires even more practice than a fully scripted talk</td>
</tr>
<tr>
<td>• Script key statements for clarity</td>
<td>• Can still run long</td>
</tr>
<tr>
<td>• Script your transitions between slides</td>
<td>• Can still interfere w/eye contact (speaker looks at screen/notes)</td>
</tr>
<tr>
<td><strong>Skeleton Notes</strong></td>
<td></td>
</tr>
</tbody>
</table>
What Makes a Speaker Effective?
Exercise 1: Stand and Deliver

- Feet hip-width distance apart
- Lower body stable
- Upper body expressive (gestures)
- Breath behind voice
- Conversational tone
- Pause between thoughts, let arms rest
Neil Gupta, 2012 EIS Conference Mackel Session

*Serratia marcescens* bloodstream infections in patients receiving total parenteral nutrition — Alabama, 2011

video clip
Exercise 2: Eye Contact

- Listeners in group each raise one hand
- Speaker maintains eye contact with one listener
- When listener feels like he/she has received “enough” eye contact, listener drops hand
- Speaker makes eye contact with next person until that person drops hand, etc.
4 Steps to an Effective Presentation

1. Plan your talk
2. Design your visuals
3. Practice your talk
4. Deliver your talk
Delivery Tips

- Don’t start until ready
- Use microphone correctly
- Speak slowly, project your voice, and breathe
- Aim for a conversational tone, not recitation
- Plant your feet hip-width distance
- Use natural body language
- Make meaningful eye contact with audience
- Check (briefly) that correct slide is projecting
- Don’t turn your back on your audience
- Introduce charts / graphs before giving point
- Pause 2, 3, 4 before advancing to next slide
Question Types

- SOCO
- Policy
- Broader implications or application
- Go beyond your study results
- Methods/ results
- Comment
- Multi-part
- Belligerent
Q&A Do’s and Don’ts

- Make sure you understand the question
- Take a moment to think
- Give short, direct answers
- Have a definite end to your answer
- State that you don’t know when appropriate

- Don’t fumble for extra slides
- Don’t thank the questioner
- Don’t rate the questions
- Don’t ask, “Have I answered your question?”
Danielle Buttke
2012 EIS Conference Mackel Session
Pyrrolizidine Alkaloid Toxicity as the Cause of Unknown Liver Disease — Tigray, Ethiopia, 2007–2011

video clip
Alternatives to Using a Laser Pointer
Build arrow into slide instead of using pointer

Peripheral Blood Smear
Providers “Very Comfortable” with HIV+ Patients Concerning

<table>
<thead>
<tr>
<th></th>
<th>Overall (n = 60)</th>
<th>Urban (n = 43)</th>
<th>Rural (n = 17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescribing ART</td>
<td>44 (73%)</td>
<td>37 (86%)</td>
<td>7 (41%)</td>
</tr>
<tr>
<td>CD4 count</td>
<td>57 (95%)</td>
<td>42 (98%)</td>
<td>15 (88%)</td>
</tr>
<tr>
<td>Viral load</td>
<td>57 (95%)</td>
<td>42 (98%)</td>
<td>15 (88%)</td>
</tr>
<tr>
<td>Illicit drug use</td>
<td>48 (80%)</td>
<td>37 (86%)</td>
<td>11 (65%)</td>
</tr>
<tr>
<td>Sexual behavior</td>
<td>47 (78%)</td>
<td>37 (86%)</td>
<td>10 (59%)</td>
</tr>
</tbody>
</table>

Instead of pointer, highlight data with a circle…
What Do I Do if I Am Running Out of Time?

- Must say less: cut or condense your verbal remarks
- Talking faster communicates less information
- Advancing to next slide while still talking about previous slide confuses your audience
- During practice, cut content until under time limit
- During presentation, know which slides you can skip and how to summarize your remarks for other slides
Poster Presentations

- Reach a larger audience
- Advertise your work
- Allow more opportunity for dialogue
  - Improve your work
  - Consider additional analyses or applications of work
- Further your professional contacts
- Present information in a wide variety of formats
- Produce less stress
General Concepts

- Readable
- Legible
- Well organized
- Succinct
- Deliver a clear message
- Highly visual
- Easy to read 6–8 feet away
- An illustrated abstract
Content

- Title
- Authors and affiliations
- Background
- Methods
- Results
- Conclusions
- Literature cited
- Acknowledgments
- Contact information
- Possibly your abstract and poster number
Content

- Title
- Authors and affiliations
- Background
- Methods
- Results
- Conclusions
- Literature cited
- Acknowledgments
- Contact information
- Possibly your abstract and poster number
Planning

- **Read directions**
  - Content
  - Deadlines
  - Size and layout
  - Other requirements

- **Type of poster**
  - Framed elements with mat board or colored paper
  - Framed elements attached to background mat board or stand-alone hinged board
  - Single large sheet
  - Consider portability, flexibility, assembly time, cost
Planning

- Professional illustrator
- Software tool to design yourself
- Poster template
- Allow enough time for design, printing, and preparation
Know your audience

- People in your field
- People in related fields
- People in unrelated fields
- Likely interests, applications of study findings, and questions
WHAT’S IT SAY?

DUNNO

I TOOK LATIN
Single Overriding Communication Objective

- Develop one main message
  - Concise
  - Simple
- Consider 2 or 3 key points you want to convey
- Design all of your visuals and text to emphasize your main message and key points
Layout

- Use large font headings to help reader identify important parts of poster
- Organize in 3 or 4 columns with content arranged top to bottom and left to right
- Leave some white space
- Avoid asymmetry
- Maintain a constant style for heading position, emphasis, and color
- Consider space limitations
<table>
<thead>
<tr>
<th>Title</th>
<th>Abstract or Background</th>
<th>Methods</th>
<th>Results</th>
<th>Conclusions</th>
<th>Literature Cited</th>
<th>Acknowledgments</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Stand alone tables, charts, graphs, and other visuals</td>
<td>Stand alone tables, charts, and graphs, and other visuals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Font

- Use sans-serif bold font for titles and headings
  - Arial
  - Tahoma
  - Helvetica
  - Calibri
- Use serif font for text blocks
  - Times New Roman
  - Palatino
- Do not use script or cartoon fonts
- Do not use more than 2 fonts
Font size

- Depends upon magnification
- Title 80-150 point bold
- Authors and affiliations 60-90 point bold
- Major headings 50-80 point bold
- Subheadings 40-70 point
- Main text 30-50 point
- Acknowledgments and captions 18-28 point
- Nothing should be smaller than 18 point font
Text

- Center justify headings and left justify text
- Use indentations for lists and to set apart content
- Double-space between paragraphs
- Use short sentences or phrases
Choose Emphasis Carefully

Use
- *Italics*
- *Color*
- **Bold face**

Do not
- Bullet or punctuate headings
- Use *underlining*
- USE ALL CAPS
- **Use font for emphasis**
Graphics

- A picture is worth a thousand words
- Always include a title
- Use a few annotations to describe patterns succinctly
- Don’t excessively label
- Follow same guidelines for font type and size as text
- Keep uncluttered
- Convey intended relationships logically
- Ensure readable at 6 feet
Editing

- Eliminate content not relevant to your message
- Be concise, rephrase, and simplify
- Use active voice
- Eliminate introductory phrases
- Provide captions for graphs and figures
- Ask a friend what could be eliminated
- Aim for 1000 words
- Check for errors in content, spelling, grammar, or spacing
Editing

- Print out and distribute small versions to friends and colleagues
- Hang a full-size draft in a common area for comment
Sample Checklist

- Meet the task
- Demonstrate aims and objectives
- Purpose clear
- Organized
- Easy on eye
- Communicate clearly
- Visual impact
- Variety and balance of visuals
- Consistent style
- Contact info
Rapid 60 Second Poster Evaluation

- Overall appearance
- White space
- Text/ Graphics balance
- Text size
- Organization and flow
- Author identification
- Research objective
- Main points
- Summary

Handouts

- Print full color small versions on 8.5”x11” paper
  - Note: If it is difficult to read, your font is too small
- Prepare other handouts as needed
  - Results tables
  - Detailed methods
  - Manuscript copies
  - Business cards
Preparing Your Presentation

- Prepare 30 second, 2-minute, and 3-5 minute oral synopsis
  - Context of problem and why it’s important
  - Research objectives
  - What you did
  - Main findings
  - Implications
Preparing Your Presentation

- Prepare a few questions to ask viewers
  - Input on findings
  - Additional questions for later analysis

- Prepare short answers to likely questions
  - Importance from policy or research perspective
  - Descriptions of data, methods, results
  - Concise descriptions of poster elements

- Practice in front of an audience
  - Oral presentation
  - Content/ layout of poster
Preparing to Leave

- **Label the poster**
  - Name, hotel, address, phone number, room number, poster session number

- **Leave backup copy and disk in an obvious place**

- **Leave poster on server accessible remotely**

- **Don’t put the poster in your checked baggage**
  - Carry on the plane
  - Ship it yourself to the hotel
What to Take

- **The poster**
- **Hanging kit**
  - Push pins
  - Removable putty adhesive
  - Velcro tape and scissors
  - Masking tape
  - Double stick tape
  - Black pen and correction fluid
- **Handouts**
The Day has Arrived

- Arrive early
- Bring your kit and handouts
- Hang your poster neatly
- Put your handouts nearby on a table or in an envelope hung with the poster
- Make sure you are next to the poster during your presentation time
- Encourage dialogue
- Consider leaving a pen and pad at your poster during other times to invite comments
Common Sense Advise

- Dress appropriately
- Do not chew gum or tobacco
- Don’t wear too much cologne or perfume
- Wear a nametag
- Arrive early
- Make sure your poster is hung neatly and in the right place
- Keep your hands out of your pockets
- Avoid vagueness
  - This figure shows our main results…
Presenting

- Use graphics to explain your work
- Face your audience
  - Don’t read your poster or refer to notes
  - Point to specific graphics on the poster when possible
- Tailor your presentation and discussion to the listeners, adjusting the focus and amount of detail to suit their interests
- If more viewers arrive, finish your presentation for the early viewers first
- Thank viewers for visiting
- Offer handouts or business cards when appropriate
Key Messages

Simplicity is good

Preparation is essential

Design should be purposeful

Delivery needs to be engaging
# Acknowledgments

- EIS officers and field EIS supervisors past and present
  - Julie Magri
  - Randolph Daley
  - Kay Smith-Akin
  - Nancy Binkin
  - Diana Bensyl
  - Sheryl Lyss
  - Kris Bisgard
  - Paul Siegel
  - Larry Cohen
- Pat McConnon
- LaKesha Robinson
- Whit Harvey
- Cassandra Butler
- Catherine Piper
- Richard Dicker
- Laura Fehrs
- Robert Fontaine
- Richard Goodman
- Tom Torok
- Andreea Winquist
- SpeakEasy, Atlanta, GA

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
Extra Slides
Focus

- Details distract from the main point
  - Present poster
  - Answer questions
  - Handouts
- Ask yourself what is absolute essential for conveying your message
- Omit everything else
- Edit carefully, simplify text, reduce sentence complexity
Color Blindness

- Avoid using red and green together
- Red might not appear bright and vivid
- Label elements on the graph itself
- Vary both color, thickness, and shape
  - Solid
  - Dotted
  - Different symbols
  - Varied hatching
- Consider magenta and green, red and blue, or yellow and blue combinations
Use pictures

- Good quality only
  - 200ppi-300ppi is ideal for images, at least 150ppi
- No distracting features
- Consider adding a thin grey or black line around the photo
- Use a light mat for dark photos and a dark mat for light photos
- Be very careful with web images
- Images might appear pixilated when printed
- Scan line art at very high resolution to get the best results
The Power of Combining Routine Molecular Subtyping and Specific Food Exposure Interviews During an Escherichia coli O157:H7 Outbreak — Minnesota, 2007

Mauri M. Holtmann,a,b,Mildred Miller,a,c,Sandra Joseph,b, and Kirk Smithb
Centers for Disease Control and Prevention
Minneapolis Department of Health
Minneapolis Department of Agriculture

Background

- Escherichia coli O157:H7 causes an estimated 73,600 infections and 61 deaths annually in the United States.
- In March 2007, the Minnesota Department of Health identified a cluster of O157 infections in the Twin Cities area.

Methods

- Routine surveillance for E. coli O157:H7 in Minnesota
- Mandatory submission of clinical O157 isolates to MDH
- Real-time PFGE subtyping of all isolates
- Median time from isolate receipt to subtyping: 49 hours
- Cases interviewed with standard questionnaire, local symptoms, history, food consumption, and other exposures
- Case-control study and food testing performed as indicated

Results

- Ten cases identified in outbreak
- Median age of patients: 12.7 years (range, 1-78 years)
- Seven (70%) were males
- One (10%)院校 was hospitalized
- Two (20%) required intensive care
- All cases, except one, were outbreak-related
- Case-control study: Odds ratio, 3.1 (95% CI, 1.1-9.3)

Discussion

- This was an O157 outbreak associated with retail ground beef
- Real-time PFGE subtyping of all O157 isolates enabled rapid detection of the cluster
- The implicated PFGE subtype was the most common in Minnesota.
- The cluster was dissolved as probable "background" cases
- This pattern is not common in April, which increased the likelihood that the cluster represented a common source outbreak

Acknowledgments

We would like to thank the folks from the United States Department of Agriculture Food Safety Inspection Service, Centers for Disease Control and Prevention, Minnesota Department of Health, and the Minnesota Department of Agriculture who participated in this investigation.
Graphics

- **Tables**
  - Consider presenting only results for main variables of interest
  - List others in footnote
  - Include more complex statistical tables in handout

- **Always include a title**

- **Use a few annotations to describe patterns succinctly**

- **Don’t excessively label**

- **Keep uncluttered**

- **Text on graphs must follow same guidelines so that it is visible**
Graphics

- Choose 2-d graphs
- Make sure they convey intended relationships logically
- Many may only view your graphics
- Should be readable from 6 feet
Graphics

- Include short descriptive titles, labels, and explanatory
- Label date lines in graphs directly
- Eliminate legends and keys
- Put markers on tick marks for x-axis
- Consider how many tick marks are needed
- Label y-axis so that it is easily read
- Use both colors and patterns to distinguish groups
- Never use colored backgrounds, grid lines, or boxes
- Avoid gradient fills
Graphics

- A picture is worth a thousand words
- **Use charts**
  - Quickly show relative sizes, comparative levels, and trends
  - Pie charts for sample composition
  - Bar charts for dependent variables across subgroups
  - Line charts or clustered bar charts for net effects of nonlinear specifications or interactions among independent variables
- **Use clip art and cartoons only if appropriate and relevant and never if offensive**
- **Follow meeting and institutional guidance regarding use of logos**
Weight Regain in Persons Successful at Substantial Weight Loss, NHANES 1999–2002

Edward C. Weiss, MD, MPH
Deborah Galuska, PhD, MPH; Laura Kettel Khan, PhD; Cathleen Gillespie, MS; Mary Serdula, MD, MPH
Division of Nutrition and Physical Activity • Centers for Disease Control and Prevention

Importance of Weight Regain After Weight Loss
- 65% of U.S. adults (1999-2002) are overweight or obese
- 10% weight loss reduces chronic disease risk factors
- ≥ 50% participants in clinical weight loss programs regain to baseline weight 3-5 years after treatment

Limitations of Previous Research on Weight Regain
- Few studies and most are clinical trials
- Small sample sizes
- Lack of generalizability
- Varied definitions and estimates of weight regain

Objectives
- To determine the prevalence of weight regain in U.S. adults successful at substantial weight loss (≥ 10% of maximum body weight)
- To identify the predictors of weight regain

- Continuous annual cross-sectional survey
- Representative of the civilian non-institutionalized U.S. population
- Complex sampling methods
- Home interview and physical examination

Weight Regain
- Successful weight loss (Lost ≥ 10% weight)
- Assessment of weight regain
- Maximum weight (BMI ≥ 25)
- Weight 1 year ago
- Current weight

Predictors of Weight Regain in U.S. Adults Successful at ≥10% Weight Loss, NHANES 1999–2002

Sample Size
- 8,127 non-pregnant adults age ≥ 20 with complete information
- 6,715 BMI ≥ 25 at maximum weight
- 3,595 at maximum weight prior to 1 year before survey
- 1,411 successful at weight loss

Prevalence of Weight Changes in the Previous Year

Weight History Questions
- Maximum weight
  - Up to the present time what is the most you have ever weighed?
- Weight 1 year ago
  - How much did you weigh a year ago?
- Current weight
  - How much do you weigh without clothes or shoes?

Limitations
- Self-reported data
- Cross-sectional data
- Limited to weight changes in previous year
- No information on fluctuations in weight
- Unknown if initial weight loss was intentional

Summary of Key Findings
- 33.5% prevalence of weight regain in the past year
- Significant predictors of weight regain include
  - Mexican American ethnicity
  - Greater percent initial weight loss
  - Shorter time since maximum weight
  - Higher recreational screen time
  - Attempting to lose or not gain weight
  - Lower levels of physical activity
Don McMillan:
Life After Death by PowerPoint
Count the Nonverbal Presentation Mistakes

http://youtu.be/yNkXMXuvbPI

http://youtu.be/yNkXMXuvbPI
Q & A
Miss South Carolina, Teen USA 2007

http://www.youtube.com/watch?v=lj3iNxZ8Dww